

Serial No. 10/662,081
Amendment dated June 23, 2005
Reply to Office Action of March 24, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A method of manufacturing electrochemical sensors, the method comprising steps of:
 - (a) ~~forming~~ applying a plurality of working electrodes on a ~~first region~~ of a substrate;
 - (b) ~~forming~~ applying a plurality of counter electrodes on a ~~second region~~ of the substrate;
 - (c) ~~folding the substrate to overlay the first region and the second region~~ overlaying the electrodes with a second substrate;
 - (d) creating a sample chamber region between the ~~first region and the second region~~ substrate having the electrodes and the second substrate, the sample chamber region having a volume of no more than 1 μ L; and
 - (e) separating a plurality of electrochemical sensors, each electrochemical sensor comprising at least one working electrode~~[[,]]~~ planar with at least one counter electrode, and at least one sample chamber region.
2. (canceled)
3. (currently amended) The method according to claim 1, further comprising:
 - (a) positioning a spacer layer between the ~~first region and the second region~~ substrate having the electrodes and the second substrate.
4. (currently amended) The method according to claim 3, wherein the step of positioning a spacer layer comprises:
 - (a) positioning an adhesive layer between the ~~first region and the second region~~ substrate having the electrodes and the second substrate.

Serial No. 10/662,081

Amendment dated June 23, 2005

Reply to Office Action of March 24, 2005

5. (currently amended) The method according to claim 4, further comprising:
- (a) ~~forming~~ applying a plurality of indicator electrodes on the substrate ~~in at least one of the first region and the second region~~; and
 - (b) wherein the step of separating a plurality of electrochemical sensors comprises:
 - (i) separating a plurality of electrochemical sensors, each electrochemical sensor comprising at least one working electrode, at least one counter electrode, at least one indicator electrode, and at least one sample chamber region.
6. (canceled)
7. (withdrawn) A method of manufacturing electrochemical sensors, the method comprising steps of:
- (a) forming a plurality of working electrodes on a first substrate;
 - (b) forming a plurality of counter electrodes on a second substrate;
 - (c) forming a plurality of indicator electrodes on one of the first substrate and the second substrate;
 - (d) overlaying the first substrate and the second substrate to form a layered structure;
 - (e) creating a sample chamber region between the first substrate and the second substrate; and
 - (f) separating a plurality of electrochemical sensors, each electrochemical sensor comprising at least one working electrode, at least one counter electrode, at least one indicator electrode, and at least one sample chamber region.
8. (withdrawn) The method according to claim 7, wherein:
- (a) the step of forming a plurality of working electrodes on a first substrate comprises:
 - (i) forming a plurality of working electrodes on a first region of the first substrate; and

Serial No. 10/662,081

Amendment dated June 23, 2005

Reply to Office Action of March 24, 2005

- (b) the step of forming a plurality of counter electrodes on a second substrate comprises:
 - (i) forming a plurality of counter electrodes on a second region of the first substrate.
- 9. (withdrawn) The method according to claim 7, further comprising:
 - (a) forming a plurality of working electrode contact pads;
 - (b) forming a plurality of counter electrode contact pads;
 - (c) forming a plurality of indicator electrode contact pads; and
 - (d) wherein the step of separating a plurality of electrochemical sensors comprises:
 - (i) separating a plurality of electrochemical sensors, each electrochemical sensor having at least one working electrode contact pad, at least one counter electrode contact pad, and at least one indicator electrode contact pad.
- 10. (withdrawn) The method according to claim 9, wherein the step of separating a plurality of electrochemical sensors further comprises:
 - (a) cutting the second substrate to expose the working electrode contact pads,
 - (b) cutting the first substrate to expose the counter electrode contact pads.
- 11. (withdrawn) The method according to claim 10, wherein:
 - (a) the step of cutting the second substrate comprises:
 - (i) die cutting the second substrate; and
 - (b) the step of cutting the first substrate comprises:
 - (i) die cutting the first substrate.
- 12. (withdrawn) The method according to claim 10, wherein after the steps of cutting:
 - (a) slitting the layered structure to provide individual electrochemical sensors.

Serial No. 10/662,081

Amendment dated June 23, 2005

Reply to Office Action of March 24, 2005

13. (withdrawn) The method according to claim 9, wherein:
- (a) the step of forming a plurality of working electrode contact pads comprises:
 - (i) forming a plurality of working electrode contact pads, each working electrode contact pad in electrical contact with one of the working electrodes;
 - (b) the step of forming a plurality of counter electrode contact pads comprises:
 - (i) forming a plurality of counter electrode contact pads, each counter electrode contact pad in electrical contact with one of the counter electrodes; and
 - (c) the step of forming a plurality of indicator electrode contact pads comprises:
 - (i) forming a plurality of indicator electrode contact pads, each indicator electrode contact pad in electrical contact with one of the indicator electrodes.
14. (withdrawn) The method according to claim 7, further comprising:
- (a) depositing an enzyme over a portion of the working electrodes or the counter electrodes.
15. (withdrawn) The method according to claim 14, further comprising:
- (a) depositing an enzyme continuously over a portion of at least two of the working electrodes or at least two of the counter electrodes.
16. (withdrawn) The method according to claim 7, further comprising:
- (a) depositing a redox mediator over a portion of the working electrodes or the counter electrodes.
17. (withdrawn) The method according to claim 16, further comprising:
- (a) depositing a redox mediator continuously over a portion of at least two of the working electrodes or two of the counter electrodes.

Serial No. 10/662,081

Amendment dated June 23, 2005

Reply to Office Action of March 24, 2005

18. (new) The method according to claim 1, wherein the step of applying a plurality of working electrodes on a substrate comprises:
- (a) applying a plurality of working electrodes on a substrate by printing.
19. (new) The method according to claim 18, wherein the step of applying a plurality of working electrodes on a substrate by printing comprises:
- (a) applying a plurality of working electrodes on a substrate by screen printing or ink jet printing.
20. (new) The method according to claim 4, wherein the step of positioning an adhesive layer between the substrate having the electrodes and the second substrate is done before the step of creating a sample chamber region between the substrate having the electrodes and the second substrate.
21. (new) The method according to claim 1, wherein the step of creating a sample chamber region between the substrate having the electrodes and the second substrate comprises:
- (a) providing a spacer layer;
 - (b) removing a portion of the spacer layer; and then
 - (c) positioning the spacer layer between the substrate having the electrodes and the second substrate to create the sample chamber region.
22. (new) The method according to claim 1, wherein the step of creating a sample chamber region between the substrate having the electrodes and the second substrate comprises:
- (a) providing a spacer layer;
 - (b) positioning the spacer layer between the substrate having the electrodes and the second substrate; and then
 - (c) removing a portion of the spacer layer to create the sample chamber region.

Serial No. 10/662,081

Amendment dated June 23, 2005

Reply to Office Action of March 24, 2005

23. (new) The method according to claim 1, wherein the step of creating a sample chamber region comprises:

- (a) creating a sample chamber region having a volume of no more than 0.5 μ L.

24. (new) A method of manufacturing electrochemical sensors, the method comprising steps of:

- (a) applying a plurality of working electrodes on a substrate;
- (b) applying a plurality of counter electrodes on the substrate;
- (c) forming a plurality of indicator electrodes on one of the substrate and a second substrate
- (d) overlaying the working electrodes and the counter electrodes with the second substrate;
- (e) creating a sample chamber region between the substrate having the electrodes and the second substrate, the sample chamber region having a volume of no more than 1 μ L; and
- (f) separating a plurality of electrochemical sensors, each electrochemical sensor comprising at least one working electrode planar with at least one counter electrode, at least one indicator electrode, and at least one sample chamber region.

25. (new) The method according to claim 24, wherein the step of creating a sample chamber region between the substrate having the electrodes and the second substrate comprises:

- (a) providing a spacer layer;
- (b) removing a portion of the spacer layer; and then
- (c) positioning the spacer layer between the substrate having the electrodes and the second substrate to create the sample chamber region.

26. (new) The method according to claim 24, wherein the step of creating a sample chamber region between the substrate having the electrodes and the second substrate comprises:

- (a) providing a spacer layer;

Serial No. 10/662,081
Amendment dated June 23, 2005
Reply to Office Action of March 24, 2005

- (b) positioning the spacer layer between the substrate having the electrodes and the second substrate; and then
- (c) removing a portion of the spacer layer to create the sample chamber region.

27. (new) The method according to claim 24, wherein the step of creating a sample chamber region comprises:

- (a) creating a sample chamber region having a volume of no more than 0.5 μ L.